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10/767,101

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EXAMINER

FIGUEROA, MARISOL

ART UNIT

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2617

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/767,101

Applicant(s)

BATNI ET AL.

Examiner

Marisol Figueroa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/13/2007 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-11, and 13-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 2, 11-17, 21, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. (US 6,236,857 B1) in views of LIN et al. (US 5,999,610) and BATNI et al. (US 5,898,917).

Regarding claim 1, Calabrese discloses an apparatus, comprising:

an originating mobile switching center that handles one or more calls (Figs. 1-2; col. 1, lines 60-65; i.e., Enhanced MSC (E-MSC));

a serving mobile switching center coupled to the originating mobile switching center (Figs. 1-2; i.e., Serving MSC is connected to the Enhanced MSC via a dedicated trunk or via PSTN network),

wherein the serving mobile switching center for a communication device on a call of the one or more calls passes control of the call to the originating mobile switching center (col. 2, lines 47-53; col. 3, lines 20-27; col. 5, lines 22-34; when serving MSC receives a call origination from a mobile station that employs an enhanced service, the serving MSC transports the call to the enhanced MSC); and

a service node coupled to the originating mobile switching center (Figs. 1-2; Service Nodes 115 are connected to the E-MSC as shown in figures 1 and 2), wherein the originating mobile switching center triggers the call to the service node, and wherein the service node sends an initial trigger response to the originating mobile switching center that instructs the originating mobile switching center to redirect the call, and wherein the initial trigger response arms one or more triggers that support one or more services for the communication device (col. 3, lines 27-38; col. 3, line 61-col. 4, lines 1-8; the E-MSC originates a call to a Service Node and obtains a result (i.e., trigger response) that the E-MSC uses in redirecting the call); and

wherein the one or more triggers comprise one or more of one or more switch based triggers and one or more subscriber based triggers exclusive of Calling_Routing_Addresss_Available, OAnswer, and ODisconnect triggers (Fig. 3; col. 3, line 61 – col. 4, lines 1-27; col. 5, lines 43-51; col. 6, line 55 – col. 7, lines 1-12); and

wherein upon receipt of the initial trigger response, the originating mobile switching center encounters at least one of the one or more triggers and triggers the call to one or more other service

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nodes (col. 3, lines 27-38; the E-MSD originates a call to a Service Node and obtains a result that the E-MSD uses in re-directing the call to a destination station (i.e., another service node)).

But, Calabrese does not particularly disclose wherein the one or more subscriber based triggers comprise one or more of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers.

However, Lin teaches that is well known in the art the use of triggers during originating call processing and/or during the terminating call processing. In addition, teaches that the triggers can occur at any one of the trigger detection points (TDP) of: (i) Origination Attempt - after receiving a call setup request, (ii) Information Collected - after receiving enough information to process the call, and (iii) Information Analyzed - after analyzing the received information, during the call originating call processing (col. 5, line 65 - col. 6, lines 1-29).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Calabrese to include the subscriber triggers comprising of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers, as suggested by LIN, because these triggers are conventional and well known in the art during the originating call process and facilitate the redirection of calls.

Nevertheless, the combination of Calabrese and Lin does not particularly disclose wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger.

However, Batni teaches that according to the Telecommunications Industry Association (TIA) standard there is two types of triggers subscriber-based triggers and office-based triggers (e.g., Calling_Routing_Address_Available) and subscriber-based triggers always have precedence over office-based triggers. Thus, if a mobile subscriber sends a digit sequence beginning with # and both

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an office-based trigger for the digit sequence and a subscriber-based “#” trigger are set, then the subscriber-based “#” trigger will be processed first, causing the lower priority office-based trigger to be bypassed (col. 4, lines 5-14, 51-60).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, the features of wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger, as taught by Batni, because according to the Telecommunications Industry Association (TIA) standard subscriber-based triggers always have precedence over office-based triggers (i.e., Calling_Routing_Address_Available), and thus it is expected that the originating mobile switching center will detect or encounter the subscriber based triggers first, since subscribers based-triggers have a higher priority compared to the office-based triggers and they require to be processed first.

Regarding claim 2, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses wherein the serving mobile switching center does not support the one or more triggers and the originating mobile switching center supports the one or more triggers (col. 1, lines 13-19; col. 2, lines 37-53; when a mobile station requires an enhance service that the Serving MSC does not support the call is transported to the Enhanced MSC which routes the call to the proper enhance service (i.e., service node) implying that the E-MSC supports one or more triggers that the S-MSC does not support to route the call to a service node).

Regarding claim 11, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses wherein the one or more triggers comprise one or more first switch based triggers, wherein the originating mobile switching center is pre-provisioned with one or more second switch based triggers; and wherein the initial trigger response arms one or more subscriber based triggers at the originating mobile switching center (col. 6, lines 6-36).

Regarding claim 13, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses in combination with the service node, and wherein the service node comprises a first service node (Fig. 4; i.e., service node 115), and wherein the one or more other service nodes comprise a second service node (Fig. 4; i.e., destination station 119), and wherein the first service node receives destination digits for the call; wherein the first service node changes the destination digits into a digit string associated with the second service node and sends the initial trigger response to the originating mobile switching center (col. 5, line 43 - col. 6, lines 1-5).

Regarding claim 14, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses wherein the initial trigger response comprises a Specific_Called_Party_Digit_String Termination AnalyzedInformation operation return result message, and wherein the Specific_Called_Party_Digit_String Termination AnalyzedInformation operation return result message comprises an indication to arm the one or more triggers and a termination list set to redirect the call to one or more of the one or more other service nodes (col. 3, lines 30-38; col. 6, lines 29-36).

Regarding claim 15, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses wherein the service node requests a list of the one or more triggers from a home location register; and wherein the service node sends the list of the one or more triggers in the initial trigger response to the originating mobile switching center (col. 4, lines 11-44).

Regarding claim 16, Calabrese discloses a method, comprising the steps of:

receiving control of a call from a serving mobile switching center (col. 2, lines 47-53; col. 3, lines 20-27; col. 5, lines 22-34; when serving MSC receives a call origination from a mobile station that employs an enhanced service, the serving MSC transports the call to the enhanced MSC);

triggering the call to a service node that employs an initial trigger response to arm one or more triggers, wherein the one or more triggers comprise one or more of one or more switch based triggers and one or more subscriber based triggers exclusive of Calling_Routing_Addresss_Available, OAnswer, and ODisconnect triggers (col. 3, lines 27-38; col. 3, line 61-col. 4, lines 1-8; then the E-MSC originates a call to a Service Node and obtains a result, (i.e., trigger response) that the E-MSC uses in redirecting the call);

encountering at least one or more of the one or more triggers associated with one or more other service nodes; and triggering the call to at least one of the one or more service nodes upon receipt of the initial trigger response (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result that the E-MSC uses in re-directing the call to a destination station (i.e., service node)).

But, Calabrese does not particularly disclose wherein the one or more subscriber based triggers comprise one or more of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers.

However, Lin teaches that is well known in the art the use of triggers during originating call processing and/or during the terminating call processing. In addition, teaches that the triggers can occur at any one of the trigger detection points (TDP) of: (i) Origination Attempt - after receiving a call setup request, (iii) Information Collected – after receiving enough information to process the call, and (iii) Information Analyzed – after analyzing the received information, during the call originating call processing (col. 5, line 65 – col. 6, lines 1-29).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Calabrese to include the subscriber triggers comprising of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers, as suggested by LIN, because these triggers are conventional and well known in the art during the originating call process and facilitate the redirection of calls.

Nevertheless, the combination of Calabrese and Lin does not particularly disclose wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger.

However, Batni teaches that according to the Telecommunications Industry Association (TIA) standard there is two types of triggers subscriber-based triggers and office-based triggers (e.g., Calling_Routing_Address_Available) and subscriber-based triggers always have precedence over office-based triggers. Thus, if a mobile subscriber sends a digit sequence beginning with # and both an office-based trigger for the digit sequence and a subscriber-based “#” trigger are set, then the subscriber-based “#” trigger will be processed first, causing the lower priority office-based trigger to be bypassed (col. 4, lines 5-14, 51-60).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, the features of wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger, as taught by Batni, because according to the Telecommunications Industry Association (TIA) standard subscriber-based triggers always have precedence over office-based triggers (i.e., Calling_Routing_Address_Available), and thus it is expected that the originating mobile switching center will detect or encounter the subscriber based triggers first, since subscribers based-triggers have a higher priority compared to the office-based triggers and they require to be processed first.

Regarding claim 17, the combination of Calabrese, Lin, and Batni disclose the method of claim 16, in addition Calabrese discloses wherein the initial trigger response comprises an indication of one or more subscriber based triggers, the method further comprising the step of: arming the one or more subscriber based triggers for one or more services indicated in the initial trigger response (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result that the E-MSC uses in re-directing the call to a destination station, i.e. service node).

Regarding claim 21, the combination of Calabrese, Lin, and Batni disclose the method of claim 16, in addition Calabrese discloses wherein the step of encountering the at least one of the one or more triggers associated with the one or more other service nodes comprises the step of: receiving an Specific_Called_Party_Digit_String Termination AnalyzedInformation operation return result message that comprises an indication to arm the one or more triggers and a termination list set to redirect the call to at least one of the one or more other service nodes to provide one or more services to a communication device (col. 3, lines 30-38; col. 6, lines 29-36).

Regarding claim 22, Calabrese discloses an article, comprising: one or more computer-readable signal-bearing media;

means in the one or more media for receiving control of a call from a serving mobile switching center (col. 2, lines 47-53; col. 3, lines 20-27; col. 5, lines 22-34; when a serving MSC receives a call origination from a mobile station that employs an enhanced service, the serving MSC transports the call to an enhanced MSC which inherently comprise means for receiving the call from the serving MSC);

means in the one or more media for triggering the call to a service node that employs an initial trigger response to arm one or more triggers, wherein the one or more triggers comprise at least one of one or more switch based triggers and one or more subscriber based triggers exclusive

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of Calling_Routing_Addresss_Available, OAnswer, and ODisconnect triggers (col. 3, lines 27-38; col. 3, line 61-col. 4, lines 1-8; the E-MSC originates a call to a Service Node and obtains a result (i.e., trigger response) that the E-MSC uses in redirecting the call which inherently comprises call setup or initiation triggers);

means in the one or more media for encountering at least one of the one or more triggers associated with one or more other service nodes; and means in the one or more media for triggering the call to one or more of the one or more other service nodes upon receipt of the initial trigger response (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result that the E-MSC uses in re-directing the call to a destination station (i.e., service node)).

But, Calabrese does not particularly disclose wherein the one or more subscriber based triggers comprise one or more of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers.

However, Lin teaches that is well known in the art the use of triggers during originating call processing and/or during the terminating call processing. In addition, teaches that the triggers can occur at any one of the trigger detection points (TDP) of: (i) Origination Attempt - after receiving a call setup request, (iii) Information Collected – after receiving enough information to process the call, and (iii) Information Analyzed – after analyzing the received information, during the call originating call processing (col. 5, line 65 – col. 6, lines 1-29).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Calabrese to include the subscriber triggers comprising of Origination_Attempt_Authorized, Collected_Information, and Analyzed_Information triggers, as suggested by LIN, because these triggers are conventional and well known in the art during the originating call process and facilitate the redirection of calls.

Nevertheless, the combination of Calabrese and Lin does not particularly disclose wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger.

However, Batni teaches that according to the Telecommunications Industry Association (TIA) standard there is two types of triggers subscriber-based triggers and office-based triggers (e.g., Calling_Routing_Address_Available) and subscriber-based triggers always have precedence over office-based triggers. Thus, if a mobile subscriber sends a digit sequence beginning with # and both an office-based trigger for the digit sequence and a subscriber-based “#” trigger are set, then the subscriber-based “#” trigger will be processed first, causing the lower priority office-based trigger to be bypassed (col. 4, lines 5-14, 51-60).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, the features of wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger, as taught by Batni, because according to the Telecommunications Industry Association (TIA) standard subscriber-based triggers always have precedence over office-based triggers (i.e., Calling_Routing_Address_Available), and thus it is expected that the originating mobile switching center will detect or encounter the subscriber based triggers first, since subscribers based-triggers have a higher priority compared to the office-based triggers and they require to be processed first.

5. **Claims 3, 8, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of LIN et al. and BATNI et al., and further in view of KARLSSON (US 2005/0262020 A1).

Regarding claim 3, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, but the combination does not particularly disclose wherein the communication device

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comprises a prepaid mobile communication device, wherein the service node comprises a prepaid service node; wherein the prepaid service node supports billing for the prepaid mobile communication device.

However, Karlsson teaches that prepaid services market has grown all over the world because it provides services without the need of signing a contract. To provide this service, the Service Node approach is the most commonly used. In the SN approach, a prepaid customer dials a party's telephone number, the MSC identifies that the caller is a prepaid customer and sets up a connection towards the SN. The SN authorizes the call by consulting a prepaid billing platform and if the call request is granted the SN sets up a trunk back to the MSC, and the trunk is eventually connected to the called party. After that, the SN starts credit decrementing for the duration of the call (p.0006-0009, and p.0011).

Therefore, one person of ordinary skill in the art at the time of the invention would have been motivated, to include a prepaid mobile communication device, and a prepaid service node; wherein the service node supports billing for the prepaid mobile communication device, as taught by Karlsson, since Karlsson teaches that it is well known in the art that the provisioning of a prepaid service node is the most commonly used approach for providing wireless telephony service to the increased number of prepaid customers.

Regarding claim 8, the combination of Calabrese, Lin, and Batni disclose the apparatus of claim 1, in addition Calabrese discloses in combination with the service node and the one or more other service nodes, wherein at least one of the one or more other service nodes provide at least one or more of the one or more services to the mobile communication device on the call; and wherein the at least one of the one or more other service nodes send one or more service identifications to

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the originating mobile switching center to indicate use of the at least one of the one or more other service nodes by the prepaid mobile communication device (col. 1, lines 13-39; col. 3, lines 20-60).

But, Calabrese does not particularly disclose wherein the communication device comprises a prepaid mobile communication device. However, Karlsson teaches that prepaid services market has grown all over the world because it provides services without the need of signing a contract (p.0006-0009).

Therefore, one person of ordinary skill in the art at the time of the invention would have been motivated, to include a prepaid mobile communication device, as suggested by Karlsson, because a prepaid mobile communication device provides the advantage of obtaining wireless communication services without having to sign a contract.

Regarding claim 10, the combination of Calabrese, Lin, Batni, and Karlsson disclose the apparatus of claim 8, in addition Calabrese discloses wherein the one or more services comprise one or more triggered services; wherein the service node sends the initial trigger response to the originating mobile switching center to arm the one or more triggers at the originating mobile switching center so the originating mobile switching center is able to provide access to the one or more triggered services (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result that the E-MSC uses in re-directing the call to a destination station (i.e. service node)).

6. **Claims 4, 5, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of LIN et al., BATNI et al., and KARLSSON, and further in view of DONOVAN et al. (US 6,075,982).

Regarding claim 4, the combination of Calabrese, Lin, Batni, and Karlsson disclose the apparatus of claim 3, but the combination does not particularly disclose wherein the originating

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mobile switching center sends to the prepaid service node one or more service identifications that are associated with at least one of the one or more other service nodes and employable by the prepaid service node to calculate billing information based on use of the at least one of the one or more other service nodes by the prepaid mobile communication device.

However, Donovan teaches a system for prepaying for wireless service, in which the mobile switching center receives the call and routes the call to a wireless enhanced service platform, by sending an origination request (consisting of an initial address message) to the wireless enhanced service platform. The initial address message contains the fields that describe the nature of the connection, the calling party, the called party (i.e., dialed digits specify the service or identifier of a service) and other attributes needed to connect and bill a call (Fig. 1; col. 3, lines 49-col. 4, lines 1-37; col. 5, lines 48-65). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to include the features of wherein the originating mobile switching center sends to the prepaid node one or more service identifications associated with one or more service nodes that are employable by the prepaid node to calculate billing information based on the use of the other service nodes, as suggested by Donovan, in order for the prepaid service node to make a determination of whether the subscriber has sufficient funds in his or her account to connect the call.

Regarding claim 5, the combination of Calabrese, Lin, Batni, and Karlsson disclose the apparatus of claim 3, in addition Calabrese discloses wherein at least one of the one or more other service nodes provide at least one of the one or more services to the prepaid mobile communication device (Fig. 2; col. 1, lines 12-33).

But, the combination of Calabrese, Lin, Batni, and Karlsson does not particularly disclose wherein the originating mobile switching center sends to the prepaid service node one or more

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service identifications that are associated with the at least one of the one or more services and employable by the prepaid service node to calculate billing information based on receipt of the at least one of the one or more services by the prepaid mobile communication device.

However, Donovan teaches a system for prepaying for wireless service, in which the mobile switching center receives the call and routes the call to a wireless enhanced service platform, by sending an origination request (consisting of an initial address message) to the wireless enhanced service platform. The initial address message contains the fields that describe the nature of the connection, the calling party, the called party (i.e., dialed digits specify the service or identifier of a service), and other attributes needed to connect and bill a call (Fig. 1; col. 3, lines 49-col. 4, lines 1-37; col. 5, lines 48-65). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein the mobile switching center sends to the prepaid node one or more service identifications associated with one or more service nodes that are employable by the prepaid node to calculate billing information based on the use of the other service nodes, as suggested by Donovan, in order for the prepaid service node to make a determination of whether the subscriber has sufficient funds in his or her account to connect the call.

Regarding claim 18, the combination of Calabrese, Lin, and Batni disclose the method of claim 16, but the combination does not particularly disclose wherein the service node comprises a prepaid service node.

However, Karlsson teaches that prepaid services market has grown all over the world because it provides services without the need of signing a contract. To provide this service, the Service Node approach is the most commonly used. In the SN approach, a prepaid customer dials a party's telephone number, the MSC identifies that the caller is a prepaid customer and sets up a connection towards the SN. The SN authorizes the call by consulting a prepaid billing platform and

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if the call request is granted the SN sets up a trunk back to the MSC, and the trunk is eventually connected to the called party. After that, the SN starts credit decrementing for the duration of the call (p.0006-0009, and p.0011).

Therefore, one person of ordinary skill in the art at the time of the invention would have been motivated, to include a prepaid mobile communication device, and a prepaid service node; wherein the service node supports billing for the prepaid mobile communication device, as taught by Karlsson, since Karlsson teaches that it is well known in the art that the provisioning of a prepaid service node is the most commonly used approach for providing wireless telephony service to the increased number of prepaid customers.

Also, the combination does not particularly disclose that the method further comprising the step of: sending to the prepaid service node one or more service identifications that are associated with one or more of the one or more other service nodes and employable by the prepaid service node to calculate billing information based on use of the one or more of the one or more other service nodes by a prepaid mobile communication device.

However, Donovan teaches a system for prepaying for wireless service, in which the mobile switching center receives the call and routes the call to a wireless enhanced service platform, by sending an origination request (consisting of an initial address message) to the wireless enhanced service platform/prepaid platform. The initial address message contains the fields that describe the nature of the connection, the calling party, the called party (i.e., dialed digits specify the service or identifier of a service), and other attributes needed to connect and bill a call (Fig. 1; col. 3, lines 49-col. 4, lines 1-37; col. 5, lines 48-65).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein the mobile switching center sends to the prepaid node one or more service

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identifications associated with one or more service nodes that are employable by the prepaid node to calculate billing information based on the use of the other service nodes, as suggested by Donovan, in order for the prepaid service node to make a determination of whether the subscriber has sufficient funds in his or her account to connect the call.

7. **Claims 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of LIN et al., BATNI et al., and KARLSSON, and further in view of O' DONNELL (US 2004/0240646 A1).

Regarding claim 6, the combination of Calabrese, Lin, Batni, and Karlsson disclose the apparatus of claim 3, in addition Calabrese discloses wherein upon receipt of the initial trigger response, the originating mobile switching center encounters a dialed digits trigger which triggers the call to a service node (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result, i.e., trigger response, which is a telephone number specified by digits, that the E-MSC uses in re-directing the call to a destination station, i.e. service node).

But, the combination of Calabrese, Lin, Batni, and Karlsson does not particularly disclose wherein the one or more other service nodes comprises a directory assistance service node and when the originating mobile switching center encounters a dialed digits trigger which triggers the call to the directory assistance service node to provide directory assistance service to the prepaid mobile communication device.

However, O' Donnell teaches that if a mobile subscriber dials an information toll service, the mobile switching center recognizes the assigned number such as "411" and routes the call to the appropriate feature platform, i.e., service node, which includes a directory assistance service according to the dialed digits (p.0007).

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Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify the combination to further include one or more other service nodes comprising a directory assistance service and wherein a dialed digits trigger a call to a directory assistance service to provide a directory assistance service, as suggested by O' Donnell, since it is well known that the directory assistance service is very popular and one of ordinary skill in the art would have been motivated to provide those services to prepaid customers.

Regarding claim 7, the combination of Calabrese, Lin, Batni, Karlsson, and O' Donnell disclose the apparatus of claim 6, in addition Calabrese discloses wherein the originating mobile switching center creates a temporary connection between the prepaid mobile communication device and the directory assistance service node for a duration of the directory assistance service; wherein the originating mobile switching center removes the directory assistance service node from a path of the call upon completion of the directory assistance service (col. 7, lines 6-21; the E-MSC sets up a call via a local network to a Service Node, e.g., prepaid node or directory assistance node, the Service Node then interacts with the user and when the interaction is over the E-MSC releases the call set up).

8. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of LIN et al., and KARLSSON, and further in view of PATEL (US 5,835,856).

Regarding claim 9, the combination of Calabrese, Lin, Batni, and Karlsson disclose the apparatus of claim 8, the combination of Calabrese and Karlsson disclose wherein the service node comprises a prepaid service node (see remarks of claim 3), but does not particularly disclose wherein the originating mobile switching center sends the one or more service identifications, one or more billing rates, and one or more call durations to the prepaid service node for employment by the

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prepaid service node to calculate an amount to deduct from an account balance associated with the prepaid mobile communication device.

However, Patel teaches that for charging purposes a charging module in the MSC monitors the call in progress and produces a call detail record including information such as duration of the call, the calling/called party number (i.e., service identifier), etc., that is then transported to the billing center for producing a bill or in case of a prepaid subscriber, deducting the charges from the prepaid account (col. 3, lines 25-45). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to include the features of wherein the mobile switching center sends the one or more service identifications, one or more billing rates, and one or more call durations to the prepaid service node to calculate an amount to deduct, as suggested by Patel, because these are the conventionally known items of information needed to generate billing statements for charging the mobile subscribers.

11. **Claims 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of LIN et al., BATNI et al., KARLSSON, and DONOVAN et al., and further in view of O' DONNELL.

Regarding claim 19, the combination of Calabrese, Lin, Batni, Karlsson, and Donovan disclose the method of claim 18, but does not particularly disclose wherein the one or more other service nodes comprises a directory assistance service node, and wherein the step of encountering the at least one of the one or more triggers associated with the one or more other service nodes comprises the step of: encountering a dialed digits trigger with a destination of the directory assistance service node upon receipt of the initial trigger response; wherein the step of triggering the call to the at least one of the one or more other service nodes upon receipt of the initial trigger

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response comprises the step of: triggering the call to the directory assistance service node to provide directory assistance service to the prepaid mobile communication device.

However, O' Donnell teaches that if a mobile subscriber dials an information toll service, the mobile switching center recognizes the assigned number such as "411" and routes the call to the appropriate feature platform (i.e., service node) which includes a directory assistance service according to the dialed digits (p.0007).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to include the features of wherein the one or more other service nodes comprise a directory assistance service and wherein a dialed digits trigger a call to a directory assistance service to provide a directory assistance service, as suggested by O' Donnell, since it is well known in the art that directory assistance services are very popular and one of ordinary skill in the art would have been motivated to provide those services to prepaid customers.

Regarding claim 20, the combination of Calabrese, Lin, Batni, Karlsson, Donovan, and O'Donnell disclose the method of claim 19, in addition Calabrese discloses wherein the step of triggering the call to the directory assistance service node to provide directory assistance service to the prepaid mobile communication device comprises the steps of: creating a temporary connection between the prepaid mobile communication device and the directory assistance service node for a duration of the directory assistance service; and removing the directory assistance service node from a path of the call upon completion of the directory assistance service (col. 7, lines 6-21; the E-MSC sets up a call via a local network to a Service Node, e.g., prepaid node or directory assistance node, the Service Node then interacts with the user and when the interaction is over the E-MSC releases the call set up).

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12. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over CALABRESE et al. in views of McCONNELL et al. (US 6,373,930 B1) and BATNI et al.

Regarding claim 23, Calabrese discloses an apparatus, comprising:

an originating mobile switching center that handles one or more calls (Figs. 1-2; col. 1, lines 60-65; i.e., Enhanced MSC (E-MSC));

a serving mobile switching center coupled to the originating mobile switching center (Figs. 1-2; i.e., Serving MSC is connected to the Enhanced MSC via a dedicated trunk or via PSTN network),

wherein the serving mobile switching center for a communication device on a call of the one or more calls passes control of the call to the originating mobile switching center (col. 2, lines 47-53; col. 3, lines 20-27; col. 5, lines 22-34; when serving MSC receives a call origination from a mobile station that employs an enhanced service, the serving MSC transports the call to the enhanced MSC); and

a service node coupled to the originating mobile switching center (Figs. 1-2; Service Nodes 115 are connected to the E-MSC as shown in figures 1 and 2), wherein the originating mobile switching center triggers the call to the service node, and wherein the service node sends an initial trigger response to the originating mobile switching center that instructs the originating mobile switching center to redirect the call, and wherein the initial trigger response arms one or more triggers that support one or more services for the communication device (col. 3, lines 27-38; col. 3, line 61-col. 4, lines 1-8; the E-MSC originates a call to a Service Node and obtains a result (i.e., trigger response) that the E-MSC uses in redirecting the call); and

wherein upon receipt of the initial trigger response, the originating mobile switching center encounters at least one of the one or more triggers and triggers the call to one or more other service

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nodes (col. 3, lines 27-38; the E-MSC originates a call to a Service Node and obtains a result that the E-MSC uses in re-directing the call to a destination station (i.e., another service node)).

But, Calabrese does not particularly disclose wherein the one or more triggers comprise one or more of one or more of Calling_Routing_Addresss_Available, OAnswer, and ODisconnect triggers.

However, McConnell teaches that according to a recommendation for “prepaid charging” (e.g., enhance service), prepaid service can be facilitated by implementing a variety of WIN triggers such as Initial_Origination and Initial_Termination triggers, Calling_Routing_Address_Available and Called_Routing_Address_Available triggers, and O_Answer and O_Disconnect triggers, which the MSC uses to invoke prepaid services for prepaid subscribers (col. 7, lines 30-59).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to modify Calabrese to include the use of triggers comprising of Calling_Routing_Addresss_Available, OAnswer, and ODisconnect triggers, as suggested by McConnell, because these triggers facilitate the implementation of prepaid services (enhanced service) for prepaid subscribers.

Nevertheless, the combination of Calabrese and McConnell does not particularly disclose wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger.

However, Batni teaches that according to the Telecommunications Industry Association (TIA) standard there is two types of triggers subscriber-based triggers and office-based triggers (e.g., Calling_Routing_Address_Available) and subscriber-based triggers always have precedence over office-based triggers. Thus, if a mobile subscriber sends a digit sequence beginning with # and both an office-based trigger for the digit sequence and a subscriber-based “#” trigger are set, then the

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subscriber-based “#” trigger will be processed first, causing the lower priority office-based trigger to be bypassed (col. 4, lines 5-14, 51-60).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, the features of wherein the originating mobile switching center encounters the one or more subscriber based triggers prior to the Calling_Routing_Address_Available trigger, as taught by Batni, because according to the Telecommunications Industry Association (TIA) standard subscriber-based triggers always have precedence over office-based triggers (i.e., Calling_Routing_Address_Available), and thus it is expected that the originating mobile switching center will detect or encounter the subscriber based triggers first, since subscribers based-triggers have a higher priority compared to the office-based triggers and they require to be processed first.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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